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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/332,919	06/14/1999	MICHAEL F. DEERING	5181-27800	3500

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EXAMINER

SEALEY, LANCE W

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 09/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/332,919

Applicant(s)

DEERING ET AL.

Examiner

Lance W. Sealey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-21 and 23-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-21 is/are allowed.
- 6) ☒ Claim(s) 23-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Allowed Subject Matter

1. Claim 14 is allowed because no prior art suggests or implies, in a method for decompressing and rendering compressed 3D geometry data, detecting control information within the compressed 3D geometry data and routing blocks of data to one or more decompressors according to said control information. Claims 15-21 are allowed because they depend on allowed claim 14.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 23-45 and 49-50 are rejected under the second paragraph of 35 U.S.C. 112. While the phrase "just in time manner" is mentioned in the specification and the title, it is not defined.

Claim Rejections - 35 USC § 102

4. The following is a quotation of 35 U.S.C. 102(e) which forms the basis for all novelty-related rejections set forth in this Office action:

A person shall be entitled to a patent unless—

- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by applicant for patent.

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5. Claim 34, 37 and 51 are rejected under 35 U.S.C. 102(e) as being anticipated by Koss et al. ("Koss," U.S. Pat. No. 5,801,711).

6. Koss, in disclosing management techniques for enhancing performance of a computer graphics system, also discloses, with respect to claim 34, a control unit configured to receive 3D geometry data (distributor chip **30**, FIG.1) wherein said 3D geometry data comprises a plurality of blocks (col.5, ll.1-5 states that the geometry accelerator chips decompose quadrilaterals (blocks) into triangles), and a plurality of decompress pipelines (geometry accelerators **32A-C** and **34**, FIG.1), wherein said control unit is configured to selectively route said blocks to one or more of said decompress pipelines (col.4, ll.52-55), wherein each block comprises compressed vector information (col.4, ll.16-21), wherein said plurality of decompress pipelines are configured to decompress said blocks into a plurality of vertices ("resulting data" after decomposition, col.16, l.45-col.7, l.9), wherein said control unit is configured to route said blocks to said one or more of said decompress pipelines in a just-in-time manner (of course this is going to occur in a "just in time manner"; in any process, each step of the process has to execute in a "just-in-time" manner for the process to work).

7. Regarding claims 37 and 51, Koss discloses transform units configured to transform said vertices from a first reference coordinate system to a second reference coordinate system (col.5, ll.1-3).

8. Accordingly, in view of the foregoing, claims 34, 37 and 51 have been anticipated by

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Koss.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 38-47 and 52-58 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Koss in view of Rossin et al. ("Rossin," U.S. Pat. No. 5,862,066).

11. With respect to claims 38 and 52, Koss discloses setup units configured to reuse selected processed vertices stored in said transformed vertex memory to form said geometric primitives (vertex RAM 102 and 104, FIG.3, and col.12, ll.41-57). However, Koss does not disclose a lighting unit configured to perform one or more vertex processes on said transformed vertices; this element is disclosed by the Rossin geometry accelerator (lighting machine 220, FIG.2).

11. Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the features of the Rossin geometry accelerator in the Koss geometry accelerators. Such a modification to Koss would provide the flexibility of illumination by one or more light sources (Rossin, col.5, ll.14-16).

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12. Considering the other claims in this rejection, regarding claim 39, Koss discloses the transform and setup units and Rossin discloses the lighting unit.

13. With respect to claims 40-41 and 53-54, Rossin discloses transform units configured to receive and transform vertices independently of the geometric primitives to which said vertices belong, wherein there are no state changes between vertices (col.5, ll.8-11).

14. Concerning claims 42 and 55, Rossin discloses performing lighting calculations independently of the geometric primitives to which said vertices belong (col.5, ll.14-16).

15. Regarding claims 43 and 56, Rossin discloses vertices subjected to one or more vertex processes before being stored into said transformed vertex memory and before being used to form geometric primitives (col.2, ll.15-23).

16. With respect to claims 44 and 57, Koss discloses said transformed vertices stored in said transformed vertex memory comprise xyz position information, color information and transparency information (col.12, ll.41-43).

17. Concerning claims 45 and 58, Rossin discloses transformed vertices further comprising additional per-graphics primitive attributes (col.2, ll.25-33).

18. Finally, regarding 46 and 47, Koss discloses a control unit configured to receive 3D geometry data (distributor chip **30**, FIG.1) wherein said 3D geometry data comprises a plurality of blocks (col.5, ll.1-5 states that the geometry accelerator chips decompose quadrilaterals (blocks) into triangles), and a plurality of decompress pipelines (geometry accelerators **32A-C** and **34**,

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FIG.1), wherein said control unit is configured to selectively route said blocks to one or more of said decompress pipelines (col.4, ll.52-55), wherein each block comprises compressed vector information (col.4, ll.16-21), wherein said plurality of decompress pipelines are configured to decompress said blocks into a plurality of vertices ("resulting data" after decomposition, col.16, l.45-col.7, l.9), wherein each decompress pipeline is coupled to one or more transform units configured to transform said vertices from a first reference coordinate system to a second reference coordinate system (col.5, ll.1-3) and wherein each lighting unit is coupled to one or more setup units, wherein setup units each comprise a transformed vertex memory, wherein each setup unit is configured to store selected processed vertices into said transformed vertex memory and reuse selected-processed vertices stored in said transformed vertex memory to form said geometric primitives (vertex RAM 102 and 104, FIG.3, and col.12, ll.41-57).

19. Accordingly, in view of the foregoing, the examiner concludes that claims 38-47 and 52-58 have been rendered unpatentable by Koss and Rossin.

Remarks

20. As a result of a new search, the examiner had to withdraw the previous Office statement that certain elements were allowable. Accordingly, this rejection is non-final.

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Conclusion

Any inquiry concerning this communication or earlier communications from the Office should be directed to the examiner, Lance Sealey, whose telephone number is (703) 305-0026. He can be reached from 7:00 am-3:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

Any response to this action should be mailed to:

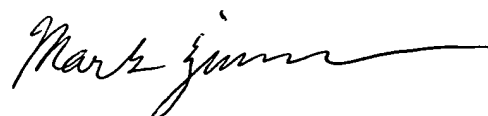
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office at (703) 306-0377.



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